Statement of

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

before the

Subcommittee on Independent Offices
Committee on Appropriations
United States Senate

Mr. Chairman and Members of the Subcommittee:

Since our appearance before you on May 17, 1968, to present the President's request for appropriations for the National Aeronautics and Space Administration for fiscal year 1969, the Senate has passed the NASA authorization bill, and the House of Representatives accepted, on June 18, the Senate amendments. The bill, H.R. 15856, now before the President for his signature, would authorize appropriations totalling \$4.013 billion.

The totals of the budget request, the authorization bill and the House-passed appropriations bill, H.R. 17023, are shown in the following table:

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FY 1969 NEW OBLIGATIONAL AUTHORITY (Thousands of Dollars)

	Budget Request	Authorization H.R. 15856	House-passed Appropriation H.R. 17023
Research and Development	\$3,677,200	\$3,370,300	\$3,383,250
Construction of Facilities	45,000	39,600	21,800
Administrative Operations	648,200	603,173	603,173
TOTAL	\$4,370,400	\$4,013,073	\$4,008,223

Thus NASA's authorization for FY 1969 is more than \$350 million below the President's January Budget request, which was already \$700 million below his request for FY 1968 and \$200 million below the amount appropriated for FY 1968.

When I appeared before this Subcommittee on May 17, I pointed out that we were not authorized to request restoration of the appropriations reductions made by the House. This is still the case. I would like to point out, however, that if the total of \$4.008 billion as included in the House-passed appropriations bill is to be recommended by this Subcommittee, the amounts in the categories in which the appropriations are divided will have to be different from those listed in the House bill. This is so because the Research and Development item in the House bill, as shown by the above table, is \$12.9 million higher than the \$3.370 billion authorized in this category.

As was the case on May 17, we still face uncertainties as to the exact levels at which we can include a number of projects in our FY 1969 operating plan. Today we will endeavor to outline the principal problems and alternatives, which have come into sharper focus with Congressional action on the NASA authorization.

At the authorized \$4 billion level, NASA's aeronautical and space activities will be sharply curtailed. We will have to reduce and stretch out ongoing programs and eliminate or defer the work that would have enabled us to continue the research and development of aeronautical and space elements looking toward a future resumption of tests and missions which will soon grind to a halt.

To use nongovernmental industrial, university and other resources for advanced aeronautical research and development, NASA must have in its laboratories and centers outstanding men and women with many different skills. It was the lack of these, more than any other factor, that caused the United States to become so concerned after the Sputnik and Gagarin exploits of the Russians. Therefore, we are particularly concerned with the reduction of the authorization for Administrative Operations to \$603.2 million.

As I have reported to you, costs related to personnel account for 68 percent of NASA expenditures in the Administrative

Operations category. To achieve the number of position reductions necessary to meet this dollar reduction would require the separation of as many as 5,000 civil service employees and a proportionate number of support contractor personnel. Such a reduction would be out of line with the heavy flight and test schedule requirements of programs such as Apollo that are approaching their periods of maximum. It would leave us problems with an inadequate in-house technical and management base. We must also face the problems of the civilian pay raise which becomes effective this July, for which no provision was made in our budget estimates. This pay raise will cost an estimated \$22 million in FY 1969.

With respect to the continuation of the Saturn IB and Saturn V production lines, which are funded in the Apollo Applications Program budget item, the future is not bright. The authorization for Apollo Applications is \$253.2 million, a reduction of \$186 million in the request. This plus the basic lack of balance in the total program as authorized raises serious doubts as to whether we can continue production of either of these vehicles. As I stated on May 17, I do not believe that we should terminate production of either of these vehicles. But at the \$4.008 billion level, we will be forced to accept a gap in Saturn V production of almost a year. By

obligating about \$25 million in FY 1969 and about \$200 million in FY 1970, we can plan to continue production after a gap of that duration between the fifteenth and sixteenth vehicles.

At the \$4.008 billion level, continued production of Saturn IB's will not be possible.

The President's Budget recommendation included \$60 million to provide for initiation of development of the NERVA nuclear engine, as well as for completing the present program of experimental reactor and nuclear engine tests. The amount that has been authorized for nuclear propulsion is \$55 million. At the \$4.370 billion total budget level recommended by the President in January, this would have been sufficient to begin NERVA development. However, in the context of a budget level of \$4 billion, it is extremely doubtful that we will be able to initiate this project. It is more likely that we will limit our work to such activities as supporting research and technology and to a completion of the technology work and tests now underway. The flight test and use of the NERVA engine would be in a new third stage of the Saturn V, for which it would almost double the payload for a number of missions. Therefore to proceed with NERVA while terminating Saturn V cannot be justified. Further complicating the nuclear propulsion picture is the action of the House on June 19 in

which the AEC portion of the program was reduced to \$31 million, \$41 million below the budget request.

In the Congressional actions on NASA's authorization, the reductions extend to all research and development programs. These include a reduction of \$13.8 million in the Apollo program; \$186 million in Apollo Applications; \$15 million in the Lunar and Planetary program; \$15.5 million in the Bioscience program; \$13.5 million in Space Applications; and reductions totalling \$26.4 million in Advanced Research and Technology programs which include Electronics Systems, Chemical Propulsion, Nuclear Propulsion and Aeronautics.

Each of these cuts will greatly limit NASA's ability to meet important needs in aeronautics and space. The reduction in the Lunar and Planetary program, for example, places the integrated program for missions to Mars in 1971 and 1973 in jeopardy. These missions were to include two Mars orbiters of the Mariner class in 1971 and two orbiters with survivable rough-landers launched on a Titan III in 1973. This program was budgeted this year as a replacement for the more complex and costly Voyager program which was eliminated by Congress last year. At the \$4.008 billion level we may be forced to limit them in scope or to eliminate either the 1971 or the

The reduction in the Space Applications program will force us to curtail our work toward using space systems for direct economic benefits. Since we appeared before you on May 17, a failure in the launch of the Nimbus B spacecraft has set the Space Applications program back. Due to instability, the Thorad launch vehicle had to be destroyed by the Range Safety Officer. The Nimbus B spacecraft included a number of highly important meteorological experiments, and, in addition, would have been the first NASA spacecraft to have a Radioisotope Thermoelectric Generator, the SNAP-19. Because of the fiscal constraints we have been under, there was no back-up spacecraft, although there was back-up provision for a number of the experiments, including the nuclear generator. Tentative plans are now being considered to launch those experiments which are available. A repeat mission would, of course, cost considerably less than the originally planned mission, but because of the reductions which have been made, support for a repeat mission can come only at the expense of deferring or cancelling other missions. This is an example of the need for an ability to recover from setbacks as well as an example of how budget constraints greatly limit the adaptability, and hence the benefits, of the space program.

\$39.6 million. The budget request was \$45 million and the amount in the House appropriations bill is \$21.8 million.

As I stated earlier, because the House-passed appropriation for Research and Development exceeds the authorization by \$12.6 million, if the final appropriation were to total the House mark of \$4.008 billion, an increase in the Construction of Facilities appropriation would be necessary. Some of the projects in the budget request -- for example, the two 210-foot antennas -- are related to proposed projects, and will have to be reconsidered in relation to the program content. Appropriation of the full amount authorized for Construction of Facilities would give us desirable flexibility within a total appropriation at the House-passed level.

Passage by the Congress last week of the "Revenue and Expenditure Control Act of 1968" requiring a reduction of \$6 billion in Federal expenditures in FY 1969 introduced additional uncertainty in the situation we now face. Along with other agencies, we have been in consultation with the Bureau of the Budget on the amounts of the \$6 billion total reduction which must be absorbed by NASA. I do not yet know what the final result of these discussions will be, or whether

NASA expenditures will have to be significantly further reduced. However, we have examined the effects of further reductions, and it may be well for you to consider what this shows.

The actions we would be forced to take if our budget is significantly reduced below the \$4.008 billion level would of course depend on the size of the reduction and the need to retain a sufficient in-house capability to manage and direct the contractors involved in our programs. We would do everything in our power to continue to work toward fulfilling the national commitment to the Apollo program. We would continue, but reduce, those programs of the greatest and most immediate national importance, such as in aeronautics, electronics, and space applications. We would continue the strongest support possible for space sciences. In manned space flight, we would endeavor to maintain the capability to take a limited but important step beyond the manned lunar landing by using Apollo hardware and facilities to learn more of man's abilities and limitations for extended periods in earth orbit. But it is in such large technology efforts as manned space flight, sophisticated unmanned missions, and launch vehicle production that high expenditure rates are necessary and, therefore, further reductions would be required.

If our new obligational authority for FY 1969 is significantly below \$4.008 billion, we will have to terminate production of the Saturn V as well as the Saturn IB launch vehicles. I know that you recognize how difficult and significant a step this would be, but without the funds we would have no other choice. Along with this action, we would cancel production of manned spacecraft for the terminated Saturn launch vehicles.

The Titan-Mars 1973 planetary mission could not be undertaken, and the Mariner-Mars 1971 mission would be jeopardized.

These are the most significant of the actions we would have to take, but throughout the NASA program further delays, curtailments and cancellations would be required, depending on the size of the reduction. There is, naturally, a point at which even more harsh steps would be necessary, such as cancelling the orders for the Saturn boosters and spacecraft for the Apollo program, which are already under contract. In certain cases, mothballing entire installations may be required.

I deeply regret the need to present these results of the reductions now being made in our aeronautics and space effort. They are serious setbacks for our country. However, it is important that you fully understand what is involved in the

actions being taken. When the final decisions on our budget level for FY 1969 have been made, and we have had an opportunity to develop our operating plan, I will present it to this Subcommittee and to the other appropriate committees of the House and Senate. In the meantime, I hope you can find it possible to approve the \$4.008 billion level as approved by the House. Such an action will help greatly in salvaging important parts of our program that will otherwise be lost.

Mr. Chairman, this concludes my statement. My associates and I will be glad to answer your questions.